Bates College Department of Biology PEER REVIEW FORM

Reviewer's PR ID#: _____ Authors' PR ID#'s: _____

Guidelines: This peer review is to be done anonymously. Your task is to help the author to write a better, more readable, paper. For this you just need to be a good, attentive, **reader**. We provide you with specific aspects of writing to assess, and questions to answer that will help you to give the author feedback concerning particular conventions of scientific writing.

Reviewers: You will be evaluated on how well you identify the strengths/weaknesses in the paper and on the quality and accuracy of your suggestions for improving the paper. We assume that you have a working familiarity with the "How to Write…" guide and that it is open on the desk beside you. The review counts 30 points.

Authors: You will be evaluated on how well you respond to suggestions made by your reviewer(s). To facilitate your evaluation, we suggest that you check (☑) any suggested changes on this document as you make them, and also check your changes on the draft manuscript. If you opt not to make a suggested change, please provide a brief comment explaining why. Your response to reviewers' suggestions counts 20 points on your paper score.

Instructions:

1. Read the paper through once, and just try to get a sense of what the paper is about and the overall organization and flow of information.

2. Read the paper again. Ignore sentence-level issues and pay close attention to what the author is trying to *say*. On the paper, write specific comments on:

- regions and sentences that are well written and clear,
- regions or sentences that are confusing and what you are confused about,
- specific suggestions for reorganizing/rewriting information/sentences if you think it would make the material more easily understood by the reader, and,
- any questions you have for the authors that will help guide them to more clearly present the information in the paper.

Do NOT line-edit the whole paper – if there are major grammar and spelling issues, pick a paragraph or two to mark extensively as examples and note them as such.

3. On this review form, assess whether certain writing conventions and information is presented weakly, satisfactorily, or strongly in the rubric boxes. For any criteria that you flag as being **Weak**, please provide specific comments about why you felt that aspect was weak and suggest ways to strengthen it.

We also ask you to identify 1 or 2 strong points and 1 or 2 aspects needing work for each section of the paper. For all questions listed, please provide brief, but constructive, answers/suggestions upon which the authors can act.

Introduction: This section gives a context for the reader to understand the background and relevance of your experiment. It also is where the purpose and hypothesis is stated for the reader.

Weak	Satisf	Strong	CRITERIA
			Purpose/goal of study clearly stated
			Motivation and /or importance of the study is clearly stated
			Background information appropriate to the study questions
			Previous research mentioned is relevant to the study
			Previous research appropriately cited
			Information flows logically from more general to more specific
			The approach to carrying out the study is briefly stated

According to the author, what is the specific purpose of this study, and how well does the background information educate you, the interested reader, as to the basis of the study and the larger context it addresses?

What specific questions are addressed by the study/experiments? Have they been made clear?

Identify 1 or 2 good/important aspects of the Introduction that should be retained during revision.

1.

2.

Identify 1 or 2 weak aspects of the Introduction that should be corrected/improved during revision.

1.

2.

Materials and Methods: An outstanding materials and methods section would allow a scientist familiar with the basic materials and techniques to replicate the experiment done, with all the same variables and conditions, using the information in the Materials and Methods section. However, it is NOT a detailed step-by-step procedure.

Materials: criteria grid (use all that apply)

Weak	Satisf	Strong	CRITERIA
			Experimental organism described properly (when applicable)
			Growth conditions / study site described
			Hard-to-find/unique materials source given
			Genus and species / strain / cultivar given

Methods: criteria grid (use all that apply)

Weak	Satisf	Strong	CRITERIA
			Described in logical order with meaningful subheadings
			Experimental or sampling design information clearly stated
			Tested variable(s) described
			Control condition(s) /sample(s) described
			What was measured is clearly described
			Final working concentrations of chemicals/solutions used
			Procedure(s) accurately and succinctly described
			Data analysis described (i.e., statistical tests, transformations, etc.)
			Chemical symbols and scientific names accurate and consistently used

Overall comprehension:

Not easily	Sort of	Easily	CRITERIA
			How easily could this experiment/study be replicated from information provided in the M&M if one is already familiar with the techniques?

<u>Identify 1 or 2 good/important aspects</u> of the Introduction that should be retained during revision.

1.

2.

<u>Identify 1 or 2 weak aspects</u> of the Introduction that should be corrected/improved during revision.

1.

2.

Results text: A good Results text section should allow the reader to understand why a particular experiment was done, and the reader should be able for formulate an image of what the data "look like" without looking at the figures. The Results text is telling the "story" of the data in words.

Weak	Satisf	Strong	CRITERIA
			Clear why a particular experiment was done
			Results text focuses on reporting the biological results
			Data trends and patterns noted and described accurately
			Results for controls described/mentioned
			Appropriate figures referenced in text
			Results present in sequence that allows reader to understand how experiments relate to each other
			If statistics are employed, information about statistical significance present in parentheses

What are the major findings described by the author in the text?

Try to imagine/sketch for yourself what the data figures for this section would look like with only this text as an information source. As you do this and then examine the figure(s), what results information is described well and what results information is lacking in the text?

<u>Identify 1 or 2 good/important aspects</u> of the Results that should be retained during revision.

1.

2.

<u>Identify 1 or 2 weak aspects</u> of the Results that should be corrected/improved during revision.

1.

2.

Results Figures/Tables: A good figure (or table) with a legend will contain all the information necessary to interpret the data. Ideally, you could write results text using the Figure/Table information.

Weak	Satisf	Strong	CRITERIA	Note Fig #'s needing work
			Appropriate format/ graph type for data chosen	
			Figures and Tables follow a consistent format	
			Legend/caption present and in proper location	
			Legend information complete and accurate	
			All axes/columns etc labeled properly	
			Figure/Table understood without referring to text section	
			Proper numbering sequence of data Figures & Tables	

Each figure or table should report data or summary statistics that support a major finding from the study. Have the authors accomplished this?

For any table or figure for which it is applicable, if you feel information is missing, in error, redundant, or is otherwise less effectively than it could be, what changes would allow easier/more specific interpretation of the data?

<u>Identify 1 or 2 good/important aspects</u> of the Tables/Figures that should be retained during revision.

1.

2.

<u>Identify 1 or 2 weak aspects</u> of the Tables/Figures that should be corrected/improved during revision.

1.

2.

Discussion: The Discussion section tells us what the data mean, why they are important, and relates these new findings to the body of knowledge already out there. Whereas the Results section told us what the data are, here, tell us what the data ***mean***.

Weak	Satisf	Strong	CRITERIA
			Overall context of this experiment is clearly stated
			Explain why original hypothesis is supported/not supported
			Conclusions are drawn from the evidence of your results
			Results *data* are discussed, not methods or statistics
			Conclusions are related to existing literature
			Personal opinion /speculation clearly differentiated from results-based conclusions
			Information here builds on and supplements that in the Introduction
			Suggest further relevant experiments based on your findings

According to the authors, what do the results of their study *mean*? What do they conclude about the study from the results they described in relation to the specific questions the study addressed?

If you feel the authors have not considered other possible explanations for their findings, suggest any alternatives you feel they should address and why. Recommend any important references that they may have overlooked that would help in this process.

How well do the authors deliver on answering/discussing the study questions/purpose as contextualized in the Introduction?

Identify 1 or 2 good/important aspects of the Discussion that should be retained during revision.

1.

2.

Identify 1 or 2 weak aspects of the Discussion that should be corrected/improved during revision.

1.

2.

Title: Now go back to the beginning and consider the paper's Title. This should capture the audience's attention, and should accurately represent the paper contents in a concise manner but still be informative enough to help the reader decide if the paper is worth reading.

Weak	Satisf	Strong	CRITERIA
			Title describes the study in context
			Major findings or conclusions are included when possible
			Title accurately reflects the findings of the study
			Species name(s) included – common and Latin
			For field studies, the study location is included

What are the key words in this title? Identify any other key words or information that the title ought to include.

After reading the paper, comment on how accurately the title reflects the study described in this paper. Make specific suggestions for improving the title if you feel it is warranted.

Abstract: This section is a summary of the paper and is usually the first section read. It is a one paragraph mini version of the paper, and it helps the reader decide if this paper is relevant enough to their interest to read the entire text. Abstracts are generally 300 words or fewer in length.

Weak	Satisf	Strong	CRITERIA
			Statement of purpose summarizes the objective or scope of the study
			Statement of purpose matches that in the Introduction
			Summarizes the experimental/sampling design and major methods used
			Agrees with methods as reported in the Methods section of the paper
			States the major results of the study pertinent to the study questions
			Stated results agree with those stated in the Results section
			States the major conclusion(s) drawn from the results
			Conclusions agree with those stated in the Discussion

According to the authors, what specific scientific question(s) is/are being addressed in this paper?

After reading the paper, what information would you suggest the authors add to, or remove from, the Abstract?

Add:

Remove:

References: You should use primary literature references to support statements and background material in your paper. They should be reputable primary sources. Generally known information does not have to be specifically referenced; any specific finding or data mentioned must be referenced.

Weak	Satisf	Strong	CRITERIA
			Number of references appropriate and sufficient
			References are papers that relate to the topic of this study
			References are well integrated and utilized in the paper
			The information used from each reference cited is clear and adds value
			Proper and consistent formatting and sequencing of references in Lit Cited
			All references in the Lit Cited are used in the body of the paper
			All references cited in body of paper are in the Lit Cited
			Format of in-text references is done correctly
			Spelling

Paper mechanics: This is an *overall* assessment of these mechanics, but if there are particular sections that need more line-editing work than others, please make note of that below.

Weak	Satisf	Strong	CRITERIA
			Spelling
			Grammar
			Use of active voice (limited use ok in Introduction and Discussion)
			Information flows logically and smoothly through paragraphs
			Each paragraph has a clear topic sentence
			Paragraphs adhere to topic
			Sentence structure is concise and clear with transitions between paragraphs
			Terminology/jargon is used consistently and correctly throughout the paper
			Personal opinion avoided in general, and if personal opinion is present, it is clearly identified as opinion, not cited fact.
			Excessive detail/brevity is avoided
			Does not contain inappropriate abbreviations or citations

Notes:

Peer Reviewer's Summary Feedback for Authors

Comment on your overall impression of the paper:

Revision focus: Circle the sections of the paper that you feel need the most attention by the authors in revision. GO BACK and review the comments you made in those sections of the draft, and in this form, to make sure that your comments provide specific, constructive, **actionable** suggestions for making the improvements to those sections that you believe are needed.

Title

Abstract

Introduction

Materials and Methods

Results

Discussion

Literature Cited

To be completed by the authors of the paper:

Comment on how well this review aided your revision of the paper.

What could the reviewer have done differently to make this review more helpful?

We incorporated (*circle one*) **most - some - only a few - none**

of the changes suggested by this reviewer.

For those suggestions you chose not to use, please make a notation on the paper as to why you chose not to make the suggested change.

When this form is returned to you, it will have attached to it your instructors' evaluation of the PR. Reviews count 30 points toward your paper grade (131 overall).